three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot

GENERAL NOTES

1. THE DRAWINGS SHOW THE GENERAL ARRANGEMENT AND LOCATION OF EQUIPMENT, DUCTWORK, PIPING, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE MECHANICAL INSTALLATION W/ THE STRUCTURE AND OTHER TRADES AND SHALL PROVIDE ADDITIONAL OFFSETS AND FITTINGS AS NECESSARY.
2. COORDINATE WORK WITH AUTHORITY HAVING JURISDICTION AND OBTAIN ALL PERMITS AND INSPECTIONS.
3. THE HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS SHALL COMPLY WITH THE MOST RECENT INTERNATIONAL MECHANICAL CODE, NFPA 90A, AND LOCAL CODE OFFICIAL REQUIREMENTS. IN THE EVENT OF A CONFLICT BETWEEN CODES, THE MOST STRINGENT SHALL ALWAYS GOVERN.
4. DUCT DIMENSIONS ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS.
5. THE CONTRACTOR SHALL CHECK AND VERIFY ALL CLEARANCES PRIOR TO FABRICATION OR INSTALLATION OF EQUIPMENT, DUCTWORK, AND PIPING SYSTEMS. WHERE CONDITIONS REQUIRE A CHANGE IN DUCT OR PIPE ROUTING, NOTIFY THE CONTRACTING OFFICER FOR AN ACCEPTABLE ALTERNATIVE METHOD. AVOID ROUTING DUCTWORK DIRECTLY OVER LIGHT FIXTURES, DIFFUSERS, AND OTHER CEILING MTD. DEVICES. LOCATE ALL MECHANICAL EQUIPMENT SO THAT FILTERS AND COMPONENTS REQUIRING ACCESS (SERVICE AND MAINTENANCE) ARE FULLY ACCESSIBLE.
6. PROVIDE CURVED RADIUS ELBOWS SUPPLY & RETURN FITTING FOR ALL HVAC UNITS. PROVIDE TURNING VANES IN ALL 90 DEGREE ELBOWS IN ALL RECTANGULAR SUPPLY/RETURN/EXHAUST DUCT SYSTEMS. ANY OFFSETS REQUIRED IN DUCT SYSTEMS SHALL BE INSTALLED PER SMACNA STANDARDS. SHARP ANGLED TRANSITIONS OR OFFSETS 'WILL NOT BE ALLOWED'. PROVIDE DUCT ACCESS DOORS AT LOCATIONS SPECIFIED.
7. INSTALL ALL DUCT MOUNTED DEVICES (DAMPERS, ACCESS DOORS, ETC.) AND PIPING SPECIALTIES IN EASILY ACCESSIBLE LOCATIONS. ADVISE THE CONTRACTING OFFICER IN ADVANCE OF INSTALLATION IF ACCESS WILL BE HINDERED SO AN ALTERNATE LOCATION CAN BE SELECTED.
8. ALL DUCT TAKE-OFFS SHALL BE INSTALLED AS SHOWN BY DETAILS ON THE PLANS WITH A MANUAL BALANCE DAMPER AT EVERY TAKE-OFF. WHERE DUCT RUN-OUT SIZE IS NOT SHOWN PROVIDE DUCT SAME SIZE AS GRILLE NECK SIZE. PRE-INSULATED FLEXIBLE DUCT MAY BE USED FOR FINAL CONNECTION TO SUPPLY/RETURN GRILLES (MAX. LENGTH 6')
9. ALL ROTATING MECHANICAL EQUIPMENT SHALL BE PROVIDED WITH VIBRATION ISOLATION. PROVIDE FLEXIBLE NEOPRENE DUCT CONNECTORS BETWEEN DUCTWORK AND ISOLATED MECHANICAL EQUIPMENT.
10. THE CONTRACTOR SHALL FIRESTOP ALL PENETRATIONS OF FIRE RATED WALLS/FLOORS/CEILINGS BY DUCTWORK PIPING, ETC., WITH U.L. LISTED FIRE STOPPING MATERIAL TO MAINTAIN FIRE RATING OF THE BARRIER.
11. SEISMIC PROTECTION OF EQUIPMENT, DUCTWORK, PIPING AND UTILITIES SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 16 OF THE 2012 EDITION OF THE INTERNATIONAL BUILDING CODE. ALL SEISMIC RESTRAINT AND BRACING SHALL BE SUBSTANTIATED BY MANUFACTURER'S SUBMITTALS PER THE SPECIFICATIONS.
12. BALANCE ALL AIR DISTRIBUTION DEVICES, EXHAUST FANS, AND OUTSIDE AIR QUANTITIES AS SCHEDULED OR SHOWN ON THE DRAWINGS. PROVIDE MARKERS AT ALL DAMPER LOCATIONS SHOWING FULL OPEN/CLOSED POSITIONS AND DAMPER SETTING FOR REQUIRED AIRFLOW. PROVIDE FINAL TEST AND BALANCE REPORT ALONG W/ SCHEMATIC DRAWINGS SHOWING DIFFUSER LOCATION W/ DESIGN AND ACTUAL CFM. THE DIFFUSER TAGS ON THE DRAWINGS SHALL CORRESPOND TO THE DIFFUSER TAGS ON THE REPORT. THIS REPORT SHALL BE SUBMITTED BEFORE THE FINAL INSPECTION IS PERFORMED. SEE THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
13. ALL PENETRATIONS THROUGH RATED FLOOR/CEILING ASSEMBLIES AND THROUGH FIRE RATED WALL AND SMOKE BARRIER ASSEMBLIES - THOSE CREATED BY REMOVAL OF DEMOLISHED ITEMS UNDER THIS CONTRACT AND THOSE DISCOVERED DURING CONSTRUCTION UNDER THIS CONTRACT AS A RESULT OF PREVIOUS WORK AND THOSE CREATED BY NEW WORK UNDER THIS CONTRACT - MUST BE SEALED AS PART OF THIS CONTRACT. ALL RATED SEPARATIONS MUST MEET CURRENT CODE REQUIREMENTS.
14. ALL CONTAMINATED DUCTS AND FILTERS FOR PATIENT ISOLATION ROOMS SHALL BE LABEL AS "BIOHAZARD" IN ACCORDANCE WITH THE VA STANDARDS AND SPECIFICATIONS.

14. SUPPLY AIR DUCTWORK UPSTREAM OF AIR TERMINAL TO BE SINGLE-WALLED MEDIUM PRESSURE ROUND OR FLAT OVAL. PROVIDE SMACNA STATIC PRESSURE CLASS AS REQUIRED FOR SCHEDULE EXTERNAL STATIC PRESSURE, SEAL CLASS A, INTERNALLY INSULATED, DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS.
15. SUPPLY AIR DUCTWORK DOWNSTREAM OF AIR TERMINAL UNITS (EXCEPT TAKEOFFS TO SUPPLY AIR DIFFUSERS) TO BE SINGLE WALL LOW PRESSURE RECTANGULAR, SMACNA STATIC PRESSURE CLASS 1" W.G., SEAL CLASS A, EXTERNALLY INSULATED WITH 2" THICK FIBERGLASS DUCT WRAP. DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS.
16. RETURN AIR DUCTWORK TO BE SINGLE WALL LOW PRESSURE RECTANGULAR, SMACNA STATIC PRESSURE CLASS 1" W.G., SEAL CLASS A, EXTERNALLY INSULATED WITH 2" THICK FIBERGLASS WRAP. DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS.
17. OUTSIDE AIR INTAKE DUCTWORK TO BE SINGLE WALL LOW PRESSURE RECTANGULAR, SMACNA STATIC PRESSURE CLASS 1" W.G., SEAL CLASS A, EXTERNALLY INSULATED WITH 2" THICK FIBERGLASS WRAP. DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS.
18. EXHAUST AIR DUCTWORK TO BE LOW PRESSURE SINGLE WALL RECTANGULAR, SMACNA STATIC PRESSURE CLASS 1" W.G., SEAL CLASS A.
19. TRANSFER DUCTS TO BE INTERNALLY INSULATED WITH 1" THICK ACOUSTICAL DUCT LINER. DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS.

MECHANICAL LEGEND

D1 250 / 8X8	DIFFUSER DESIGNATION (TYPE, CFM, NECK SIZE)
T1	THERMOSTAT, "1" INDICATES DEVICE CONTROLLED
	DIFFUSER, DIRECTION OF FLOW AS INDICATED
	RETURN AIR OUTLET
	EXHAUST AIR OUTLET
UC	DOOR UNDERCUT (1")
20x8	DUCT SIZE, FIRST NO. IS SIDE SHOWN
	ELBOW
	INDICATES ITEMS TO BE DEMOLISHED
FD	FIRE DAMPER WITH ACCESS
	MANUAL VOLUME DAMPER
DM	MOTORIZED DAMPER
CV-X	CONSTANT VOLUME UNIT DESIGNATION
FCU-X	FAN COIL UNIT DESIGNATION
VAV-X	VARIABLE AIR VOLUME UNIT DESIGNATION
ATU-X	AIR TERMINAL UNIT DESIGNATION
	P.O.D. POINT OF DISCONNECTION
	P.O.C. POINT OF CONNECTION
AFS	AIR FLOW MEASURING STATION
AI	ANALOG INPUT
AO	ANALOG OUTPUT
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
DPS	DIFFERENTIAL PRESSURE SENSOR
DS	AIR TEMPERATURE SENSOR
EXH AIR	EXHAUST AIR
(E)	EXISTING
FZ	FREEZE STAT
HPS	HIGH PRESSURE STEAM
HPR	HIGH PRESSURE STEAM CONDENSATE RETURN
LPS	LOW PRESSURE STEAM
LPR	LOW PRESSURE STEAM CONDENSATE RETURN
MPS	MEDIUM PRESSURE STEAM
MPR	MEDIUM PRESSURE STEAM CONDENSATE RETURN
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
OA	OUTSIDE AIR
RA	RETURN AIR
RH	RELATIVE HUMIDITY
SA	SUPPLY AIR
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
CHWS	CHILLED WATER SUPPLY
CHWR	CHILLED WATER RETURN
	CONDENSATE
LPS	LOW PRESSURE STEAM (15 PSIG & BELOW)
LPR	LOW PRESSURE CONDENSATE RETURN
MPS	MEDIUM PRESSURE STEAM (16 PSIG THRU 59 PSIG)
MPR	MEDIUM PRESSURE CONDENSATE RETURN
HPS	HIGH PRESSURE STEAM (60 PSIG & ABOVE)
HPR	HIGH PRESSURE CONDENSATE RETURN
	BALL VALVE
SD	SMOKE DETECTOR
R1	ROOM PRESSURE MONITOR, "1" INDICATES DEVICE CONTROLLED

AMBIENT DESIGN CONDITIONS

SEASON	OUTSIDE TEMPERATURE
SUMMER	96°F DB/76°F WB
WINTER	21°F DB

DESIGN CONDITIONS

UNIT	SUMMER SPACE TEMP./HUMIDITY	WINTER SPACE TEMP./HUMIDITY
AHU-13	75°F DB/50% RH	72°F DB/50% RH
FCU'S	75°F DB/50% RH	72°F DB/50% RH
UNIT HEATERS	N/A	40°F DB/--
VENTILATION FANS	85°F DB/--	N/A

NOTES:
1. INSIDE SUMMER RELATIVE HUMIDITY IS +/- 10%.
2. INSIDE WINTER DESIGN TEMPERATURE IS +/- 2 DEG F.
3. INSIDE SUMMER DESIGN TEMPERATURE IS +/- 2 DEG F.

DEDUCTIVE ALTERNATES

1. DEDUCT ALL MECHANICAL WORK IN EAST WING.

CONSTRUCTION DOCUMENT SUBMISSION
FULLY SPRINKLERED

1 ADDENDUM #1	6/4/2014
Revisions:	Date

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Drawing Title: **MECHANICAL NOTES, SYMBOLS, AND ABBREVIATIONS**

Approved: Project Director

Project Title: **RENOVATE MEDICAL SURGICAL UNIT**

Location: **W.J. BRYAN DORN VAMC; COLUMBIA, SC**

Date: **05-16-2014** | Checked: **CD** | Drawn: **CD**

Project Number: **544-13-102**

Building Number: **100**

Drawing Number: **MH001**

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OFFICE OF CONSTRUCTION AND FACILITIES MANAGEMENT

Department of Veterans Affairs

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